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1. An aqueous pesticidal concentrate composition comprising:
  - a water-soluble pesticide dissolved in an aqueous medium, the water-soluble pesticide being present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;
  - a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants; and
  - a compound which increases cell membrane permeability within the plant to increase cellular uptake of the pesticide in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,wherein said compound and said surfactant component are present in a molar ratio exceeding 10:1.
2. A composition of claim 1 wherein the pesticide comprises a herbicide.
3. A composition of claim 2 wherein the herbicide comprises glyphosate or a salt or ester thereof.
4. A composition of claim 3 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.
5. A composition of claim 4 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, or hexamethylenediamine salt thereof.

6. A composition of claim 5 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.

7. A composition of claim 1 wherein said compound and said surfactant component are present in a molar ratio exceeding 15:1.

8. A composition of claim 1 wherein said composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

9. A composition of claim 1 wherein said compound comprises oxalic acid or a salt thereof.

10. A composition of claim 1 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.

11. A composition of claim 3 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.

12. An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
a compound which increases cell membrane permeability within the plant such that, when said composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, cellular uptake of glyphosate is increased in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

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13. A composition of claim 12 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

14. A composition of claim 12 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

15. A composition of claim 12 wherein said compound comprises oxalic acid or a salt thereof.

16. A composition of claim 12 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.

17. An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;  
a compound which increases cell membrane permeability within the plant to increase cellular uptake of the glyphosate in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

18. A composition of claim 17 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.
19. A composition of claim 18 wherein the glyphosate is predominantly in the form of the potassium or monoethanolamine salt thereof.
20. A composition of claim 17 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in an aqueous medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.
21. A composition of claim 17 wherein said compound comprises oxalic acid or a salt thereof.
22. A composition of claim 17 wherein the cell membrane permeability is increased by chelating calcium in the cell wall or apoplast which compromises calcium dependent defense responses.
23. A composition of claim 17 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.
24. A composition of claim 23 wherein the glyphosate concentration is in excess of 450 grams glyphosate a.e. per liter.
25. A composition of claim 24 wherein the glyphosate concentration is in excess of 500 grams glyphosate a.e. per liter.
26. An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when

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the composition is diluted in a suitable volume of water to form an enhanced  
5 application mixture and applied to the foliage of a susceptible plant; and  
a compound which increases cell membrane permeability within the plant to  
increase cellular uptake of the glyphosate in the plant treated with said enhanced  
application mixture as compared to a plant treated with a reference application  
mixture devoid of said compound but otherwise having the same composition as  
10 said enhanced application mixture.

27. A composition of claim 26 further including a surfactant component in  
solution or stable suspension, emulsion, or dispersion in said medium, comprising  
one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter  
of composition.

28. A composition of claim 26 wherein said compound comprises oxalic acid or a  
salt thereof.

29. A composition of claim 26 wherein the cell membrane permeability is  
increased by chelating calcium in the cell wall or apoplast which compromises  
calcium dependent defense responses.

30. A composition of claim 26 wherein the concentration of potassium  
glyphosate is in excess of 300 grams glyphosate a.e. per liter.

31. A composition of claim 30 wherein the concentration of potassium  
glyphosate is in excess of 400 grams glyphosate a.e. per liter.

32. A composition of claim 31 wherein the concentration of potassium  
glyphosate is in excess of 500 grams glyphosate a.e. per liter.

33. An aqueous pesticidal concentrate composition comprising:  
a water-soluble pesticide dissolved in an aqueous medium, the water-soluble  
pesticide being present in a concentration that is biologically effective when the

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composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant;

a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants; and

a compound which suppresses oxidative burst in cells of the plant to interfere with plant defense response in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,

wherein said compound and said surfactant component are present in a molar ratio exceeding 10:1.

34. A composition of claim 33 wherein the pesticide comprises a herbicide.

35. A composition of claim 34 wherein the herbicide comprises glyphosate or a salt or ester thereof.

36. A composition of claim 35 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

37. A composition of claim 36 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, or hexamethylenediamine salt thereof.

38. A composition of claim 37 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.

39. A composition of claim 38 wherein said compound and said surfactant component are present in a molar ratio exceeding 15:1.

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40. A composition of claim 33 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

41. A composition of claim 33 wherein the oxidative burst is suppressed by directly inhibiting free-radical generating oxidase.

42. A composition of claim 33 wherein the oxidative burst is suppressed by blocking a signaling step leading to activation of free-radical generating oxidase.

43. A composition of claim 35 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.

44. A composition of claim 43 wherein the glyphosate concentration is in excess of 450 grams glyphosate a.e. per liter.

45. A composition of claim 44 wherein the glyphosate concentration is in excess of 500 grams glyphosate a.e. per liter.

46. An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
a compound which suppresses oxidative burst in cells of a plant, such that,  
when said composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, plant defense response is abated in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

47. A composition of claim 46 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

48. A composition of claim 46 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

49. A composition of claim 46 wherein the oxidative burst is suppressed by directly inhibiting free-radical generating oxidase.

50. A composition of claim 46 wherein the oxidative burst is suppressed by blocking a signaling step leading to activation of free-radical generating oxidase.

51. An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and  
a compound which suppresses oxidative burst in cells of the plant to interfere with plant defense response in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.



52. A composition of claim 51 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, or monoethanolamine salt thereof.
53. A composition of claim 52 wherein the glyphosate is predominantly in the form of the potassium or monoethanolamine salt thereof.
54. A composition of claim 51 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in an aqueous medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.
55. A composition of claim 51 wherein the oxidative burst is suppressed by directly inhibiting free-radical generating oxidase.
56. A composition of claim 51 wherein the oxidative burst is suppressed by blocking a signaling step leading to activation of free-radical generating oxidase.
57. A composition of claim 51 wherein the glyphosate concentration is in excess of 400 grams glyphosate a.e. per liter.
58. A composition of claim 57 wherein the glyphosate concentration is in excess of 450 grams glyphosate a.e. per liter.
59. A composition of claim 58 wherein the glyphosate concentration is in excess of 500 grams glyphosate a.e. per liter.
60. An aqueous herbicidal concentrate composition comprising:  
glyphosate predominantly in the form of the potassium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

10 a compound which suppresses oxidative burst in cells of the plant to interfere with plant defense response in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

61. A composition of claim 60 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.

62. A composition of claim 60 wherein the oxidative burst is suppressed by directly inhibiting free-radical generating oxidase.

63. A composition of claim 60 wherein the oxidative burst is suppressed by blocking a signaling step leading to activation of free-radical generating oxidase.

64. A composition of claim 60 wherein the concentration of potassium glyphosate is in excess of 400 grams glyphosate a.e. per liter.

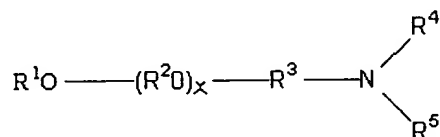
65. A composition of claim 64 wherein the concentration of potassium glyphosate is in excess of 450 grams glyphosate a.e. per liter.

66. A composition of claim 65 wherein the concentration of potassium glyphosate is in excess of 500 grams glyphosate a.e. per liter.

67. An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
oxalic acid or a salt thereof in a concentration such that, when the  
5 composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, growth of the plant is

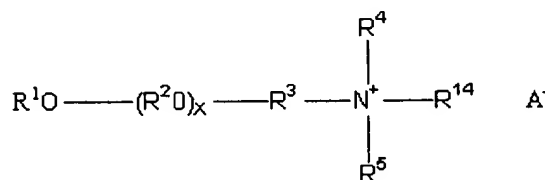
73. A composition of claim 71 wherein the surfactant component comprises one or more cationic, nonionic or anionic surfactants.

74. A composition of claim 73 wherein the surfactant component comprises an aminated alkoxylated alcohol having the formula:



(5)

or



(6)

wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>3</sup> and R<sup>6</sup> are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms; R<sup>4</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup> or together with R<sup>5</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>5</sup> is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup>, or together with R<sup>4</sup> and the nitrogen atom to which they are attached, form a cyclic or heterocyclic ring; R<sup>7</sup> is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms; R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are

hydrogen, hydrocarbyl or substituted hydrocarbyl,  $R^{14}$  is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy substituted hydrocarbyl,  $-(R^6)_n-(R^2O)_yR^7$ ,  $-C(=NR^{11})NR^{12}R^{13}$ ,  $-C(=O)NR^{12}R^{13}$ , or  $-C(=S)NR^{12}R^{13}$ ,  $n$  is 0 or 1,  $x$  and  $y$  are independently an average number from 1 to about 60, and  $A^-$  is an agriculturally acceptable anion.

75. An aqueous herbicidal composition comprising:

glyphosate predominantly in the form of the diammonium salt thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible broadleaf plant; and  
5      oxalic acid or a salt thereof in a concentration such that growth of the plant is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of oxalic acid and said salt but otherwise having the same composition as said enhanced application mixture.

76. A composition of claim 76 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

77. A composition of claim 75 wherein said oxalic acid comprises an alkali metal salt, alkanolamine salt, alkylamine salt, tetraalkylammonium salt, or aryltrialkylammonium salt of oxalic acid.

78. A composition of claim 75 wherein the weight ratio of glyphosate a.e. said oxalic acid is between about 1:1 and about 10:1.

79. A composition of claim 78 wherein the weight ratio of glyphosate a.e. said oxalic acid is about 3:1.

80. An aqueous herbicidal composition comprising:

glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a tetraalkylammonium or aryltrialkylammonium salt of oxalic acid in a concentration such that growth of the plant treated with said enhanced application mixture is controlled to a greater extent as compared to a plant treated with a reference application mixture devoid of said salt but otherwise having the same composition as said enhanced application mixture.

81. A composition of claim 80 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

82. A composition of claim 80 wherein said oxalic acid salt comprises hexadecyltrimethyl ammonium halide, tetrabutyl ammonium halide, triethyl benzyl ammonium halide, tetraethyl ammonium halide, triethyl N-butyl ammonium halide, tetrapropyl ammonium halide, tetrabutyl ammonium halide, phenyl trimethyl ammonium halide, tetramethyl ammonium halide, myristyl trimethyl ammonium halide, cetyl trimethyl ammonium halide, tetra-N-propyl ammonium halide, triethyl benzyl ammonium halide, trimethyl benzyl ammonium halide, benzyl triethyl ammonium halide, benzyl trimethyl ammonium halide, benzyl tributyl ammonium halide, triethyl butyl ammonium halide, tributyl ethyl ammonium halide, tributyl methyl ammonium halide, dodecyltrimethyl ammonium halide, hexadecyltrimethyl ammonium hydroxide, tetrabutyl ammonium hydroxide, triethyl benzyl ammonium hydroxide, tetraethyl ammonium hydroxide, triethyl N-butyl ammonium hydroxide, tetrapropyl ammonium hydroxide, tetrabutyl ammonium hydroxide, phenyl trimethyl ammonium hydroxide, tetramethyl ammonium hydroxide, myristyl trimethyl ammonium hydroxide, cetyl trimethyl ammonium hydroxide, tetra-N-propyl ammonium hydroxide, triethyl benzyl ammonium hydroxide, trimethyl benzyl ammonium hydroxide, benzyl triethyl ammonium hydroxide, benzyl trimethyl

ammonium hydroxide, benzyl tributyl ammonium hydroxide, triethyl butyl  
ammonium hydroxide, tributyl ethyl ammonium hydroxide, tributyl methyl  
20 ammonium hydroxide, or dodecyl trimethyl ammonium hydroxide.

83. A composition of claim 80 wherein said plants are broadleaf plants.

84. An aqueous herbicidal composition comprising:

glyphosate or a salt or ester thereof, in solution in an aqueous medium in a  
concentration that is biologically effective when the composition is diluted in a  
suitable volume of water to form an enhanced application mixture and applied to  
5 the foliage of a susceptible plant;

a surfactant component in solution or stable suspension, emulsion, or  
dispersion in said medium, comprising one or more surfactant(s); and

oxalic acid or a salt thereof, wherein the concentration of oxalic acid or said  
salt and the nature of said surfactant are such that a first difference between:

10 (i) the growth rate of a plant treated with a first enhanced application mixture  
prepared by dilution of said aqueous herbicidal composition with water and

(ii) the growth rate of a plant treated with a first reference application mixture  
devoid of oxalic acid and any said salt but otherwise having the same  
composition as said first enhanced application mixture

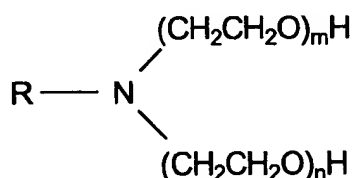
15 is greater than a second difference between:

(iii) the growth rate of a plant treated with a second enhanced application  
mixture and

20 (iv) the growth rate of a plant treated with a second reference application  
mixture devoid of oxalic acid and any said salt but otherwise having the  
same composition as said second enhanced application mixture,

wherein the composition of said second enhanced application mixture differs from the composition of said first enhanced application mixture only with respect to the nature of the surfactant system contained therein, said second enhanced application mixture containing one of the following cationic surfactants selected from the group consisting of:

an ethoxylated tallowamine surfactant having the formula:



(3)

wherein R is a mixture of predominantly C<sub>16</sub> and C<sub>18</sub> alkyl and alkenyl chains derived from tallow and the total of m+n is an average number of about 15, wherein the weight ratio of glyphosate a.e. to surfactant in the second enhanced application mixture is about 2:1;

cocoalkyltrimethylammonium chloride, wherein the weight ratio of glyphosate a.e. to surfactant in the second enhanced application mixture is about 4:1; and

POE(15)cocoalkylmonomethylammonium chloride, wherein the weight ratio of glyphosate a.e. to surfactant in the second enhanced application mixture is about 4:1.

85. A composition of claim 84 wherein said plant comprises a broadleaf plant.

86. An aqueous herbicidal composition comprising:

glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 360 grams glyphosate a.e. per liter; and

oxalic acid or a salt thereof in a concentration such that, when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible broadleaf plant, growth of the plant is controlled to a greater extent as compared to a broadleaf plant treated with



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87. A composition of claim 86 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

88. A composition of claim 86 wherein said oxalic acid comprises an alkali metal salt, alkanolamine salt, alkylamine salt, tetraalkylammonium salt, or aryltrialkylammonium salt of oxalic acid.

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10 wherein the composition has a density of at least about 1.210 grams/liter.

90. A composition of claim 89 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s).

91. A composition of claim 89 wherein the composition has a density of at least about 1.230 grams/liter.

92. A composition of claim 91 wherein the composition has a density of at least about 1.240 grams/liter.

94. An aqueous herbicidal concentrate composition comprising:

solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

95. A composition of claim 94 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s) in a total amount of about 20 to about 300 grams per liter of composition.

96. A composition of claim 94 wherein said oxalic acid comprises an alkali metal salt, alkanolamine salt, alkylamine salt, tetraalkylammonium salt, or aryltrialkylammonium salt of oxalic acid.

97. An aqueous herbicidal composition comprising:

glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant; and

oxalic acid or a salt thereof;

wherein the glyphosate a.e. and the oxalic acid are present in a weight ratio greater than 21:1.

99. An aqueous pesticidal concentrate composition comprising:

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a compound which increases expression of hydroxyproline-rich glycoproteins which increases movement of said pesticide to the phloem in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,

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101. A composition of claim 100 wherein the herbicide comprises glyphosate or a salt or ester thereof.

102. A composition of claim 101 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

109. An aqueous herbicidal concentrate composition comprising:  
glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration in excess of 455 grams glyphosate a.e. per liter; and  
a compound which increases expression of hydroxyproline-rich glycoproteins such that, when said composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant, movement of said glyphosate to the phloem is increased in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

110. A composition of claim 109 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

111. A composition of claim 109 further including a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactants, the surfactant component being present in a concentration sufficient to provide acceptable temperature stability of the composition such that the composition has a cloud point of at least about 50°C and a crystallization point not greater than about 0°C.

112. A composition of claim 109 wherein said compound comprises oxalic acid or a salt thereof.

113. An aqueous herbicidal concentrate composition comprising:

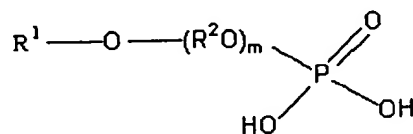
(i) glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;

(ii) a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s); and

(iii) oxalic acid or a salt thereof;

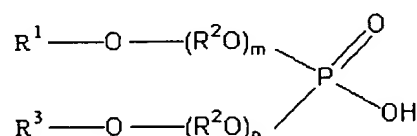
wherein the surfactant component comprises at least one surfactant selected from the group consisting of:

(a) a phosphate ester having the formula:



wherein R<sup>1</sup> is a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms; R<sup>2</sup> in each of the m (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; and m is from 1 to about 30;

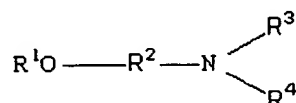
(b) a phosphate diester having the formula:



(56)

wherein R<sup>1</sup> and R<sup>3</sup> are independently a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms; R<sup>2</sup> in each of the m (R<sup>2</sup>O) and the n (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; and m and n are independently from 1 to about 30;

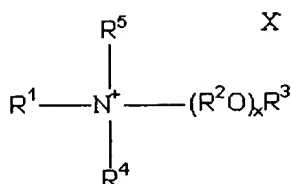
(c) etheramines having the formula:



(32)

wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; R<sup>2</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms; R<sup>3</sup> and R<sup>4</sup> are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or -(R<sup>5</sup>O)<sub>x</sub>R<sup>6</sup>, R<sup>5</sup> in each of the x(R<sup>5</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>6</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 50; and

(d) monoalkoxylated quaternary ammonium salts having the formula:



(30)

35 wherein R<sup>1</sup> and R<sup>5</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>4</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 60, and X<sup>-</sup> is an agriculturally acceptable anion.

114. A composition of claim 113 wherein the glyphosate is predominantly in the form of the potassium, monoammonium, diammonium, sodium, monoethanolamine, isopropylamine, n-propylamine, ethylamine, ethylenediamine, hexamethylenediamine or trimethylsulfonium salt thereof.

115. A composition of claim 114 wherein the weight ratio of glyphosate a.e. to surfactant is between about 6:1 and about 1:1.

116. A method of decreasing surfactant content of an aqueous herbicidal concentrate composition required to provide a given degree of growth control observed when the composition is diluted with water and applied to foliage of a plant, the method comprising adding oxalic acid or a salt thereof to said composition, said composition comprising glyphosate or a salt or ester thereof and one or more surfactants.

117. The method of claim 116 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

118. A method of decreasing aquatic toxicity of an aqueous herbicidal composition without decreasing growth control observed when the composition is

diluted with water and applied to foliage of a plant, the method comprising adding oxalic acid or a salt thereof to said composition, said composition comprising glyphosate or a salt or ester thereof.

119. A method of claim 118 further including a surfactant component comprising one or more surfactants.

120. The method of claim 118 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

121. A method of controlling growth of morningglory, the method comprising applying an aqueous composition to foliage of said morningglory, said composition comprising glyphosate or a salt or ester thereof and oxalic acid or a salt thereof.

122. The method of claim 121 wherein the weight ratio of glyphosate a.e. to said oxalic acid is between about 1:30 and about 100:1.

123. An aqueous herbicidal concentrate composition comprising:

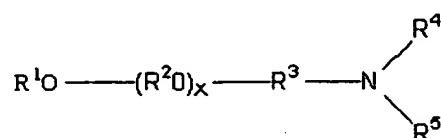
(i) glyphosate or a salt or ester thereof, in solution in an aqueous medium in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;

(ii) a surfactant component in solution or stable suspension, emulsion, or dispersion in said medium, comprising one or more surfactant(s); and

(iii) oxalic acid or a salt thereof;

wherein the surfactant component comprises at least one surfactant selected from the group consisting of:

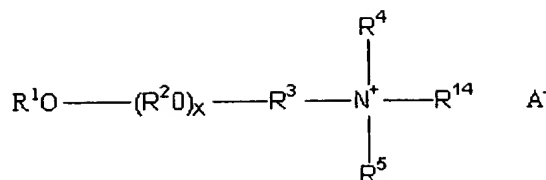
(a) aminated alkoxyated alcohol having the formula:



(5)



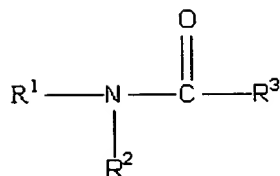
or



(6)

15 wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to  
 about 30 carbon atoms; R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is  
 independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>3</sup> and R<sup>6</sup> are each independently hydrocarbylene or  
 substituted hydrocarbylene having from 1 to about 6 carbon atoms; R<sup>4</sup> is hydrogen,  
 hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  
 hydroxy substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>,  
 20 -(R<sup>6</sup>)<sub>n</sub>-C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup> or together with R<sup>5</sup> and the nitrogen atom to which  
 they are attached, form a cyclic or heterocyclic ring; R<sup>5</sup> is hydrogen, hydrocarbyl or  
 substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy  
 substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, -(R<sup>6</sup>)<sub>n</sub>-  
 C(O)OR<sup>7</sup>, -C(=S)NR<sup>12</sup>R<sup>13</sup>, or together with R<sup>4</sup> and the nitrogen atom to which they  
 25 are attached, form a cyclic or heterocyclic ring; R<sup>7</sup> is hydrogen or a linear or  
 branched alkyl group having 1 to about 4 carbon atoms; R<sup>11</sup>, R<sup>12</sup> and R<sup>13</sup> are  
 hydrogen, hydrocarbyl or substituted hydrocarbyl, R<sup>14</sup> is hydrogen, hydrocarbyl or  
 substituted hydrocarbyl having from 1 to about 30 carbon atoms, hydroxy  
 substituted hydrocarbyl, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>, -C(=NR<sup>11</sup>)NR<sup>12</sup>R<sup>13</sup>, -C(=O)NR<sup>12</sup>R<sup>13</sup>, or -  
 30 C(=S)NR<sup>12</sup>R<sup>13</sup>, n is 0 or 1, x and y are independently an average number from 1 to  
 about 60, and A<sup>-</sup> is an agriculturally acceptable anion;

(b) hydroxylated amides having the formula:



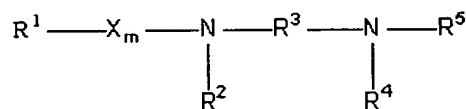
35

(7)

wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms, R<sup>2</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and R<sup>3</sup> is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl;

40

(c) diamines having the formula:

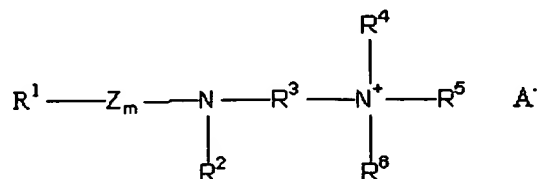


(9)

45

wherein R<sup>1</sup>, R<sup>2</sup> and R<sup>5</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms or -R<sup>8</sup>(OR<sup>9</sup>)<sub>n</sub>OR<sup>10</sup>, R<sup>3</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 18 carbon atoms, R<sup>8</sup> and R<sup>9</sup> are individually hydrocarbylene or substituted hydrocarbylene having from 2 to about 4 carbon atoms, R<sup>4</sup> and R<sup>10</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, m is 0 or 1, n is an average number from 0 to about 40, and X is -C(O)- or -SO<sub>2</sub>-;

(d) mono- or di-ammonium salts having the formula:

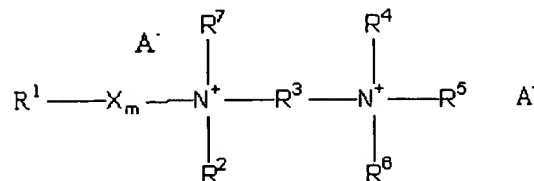


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(10)

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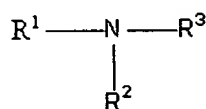
or



(11)

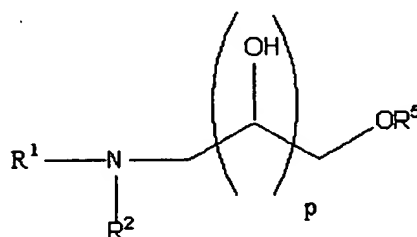
wherein  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^4$ ,  $\text{R}^5$  and  $\text{R}^7$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms or  $-\text{R}^8(\text{OR}^9)_n\text{OR}^{10}$ ,  $\text{R}^6$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $\text{R}^3$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $\text{R}^8$  and  $\text{R}^9$  are individually hydrocarbylene or substituted hydrocarbylene having from 2 to about 4 carbon atoms,  $\text{R}^{10}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $m$  is 0 or 1,  $n$  is an average number from 0 to about 40,  $\text{X}$  is  $-\text{C}(\text{O})-$  or  $-\text{SO}_2-$ ,  $\text{Z}$  is  $-\text{C}(\text{O})-$ , and  $\text{A}^-$  is an agriculturally acceptable anion;

(e) poly(hydroxyalkyl)amines having the formula:



(12)

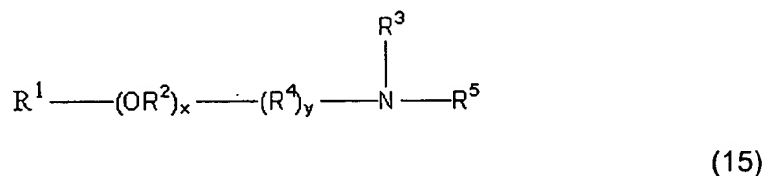
or



(12A)

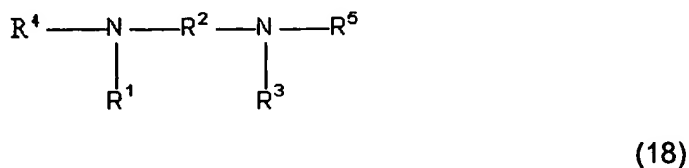
wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms or -R<sup>4</sup>OR<sup>8</sup>, R<sup>2</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>3</sup> is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl, R<sup>4</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 18 carbon atoms, R<sup>8</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and R<sup>5</sup> is -(R<sup>6</sup>O)<sub>y</sub>R<sup>7</sup>; R<sup>6</sup> in each of the y(R<sup>6</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>7</sup> is hydrogen or a linear or branched alkyl group having 1 to about 4 carbon atoms; and y is an average number from 0 to about 30;

80 (f) alkoxyated poly(hydroxyalkyl)amines having the formula:



wherein R<sup>1</sup> and R<sup>3</sup> are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>4</sup> is hydrocarbylene or substituted hydrocarbylene having from 1 to about 30 carbon atoms, R<sup>5</sup> is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl; x is an average number from 0 to about 30, and y is 0 or 1;

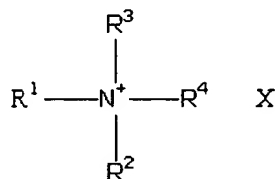
(g) di-poly(hydroxyalkyl)amine having the formula:



90 wherein R<sup>1</sup> and R<sup>3</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 22 carbon atoms, R<sup>2</sup> is hydrocarbylene or

substituted hydrocarbylene having from 2 to about 18 carbon atoms, and  $R^4$  and  $R^5$  are independently hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl;

(h) quaternary poly(hydroxyalkyl)amine salts having the formula:

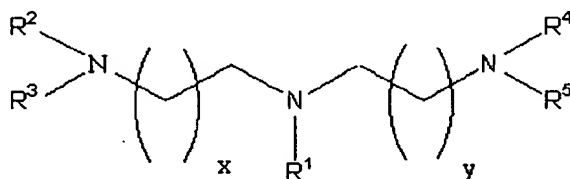


95

(20)

wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from about 4 to about 30 carbon atoms,  $R^2$  and  $R^3$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^4$  is hydroxyalkyl, polyhydroxyalkyl, or poly(hydroxyalkyl)alkyl, and  $X^-$  is an agriculturally acceptable anion;

(i) triamines having the formula:

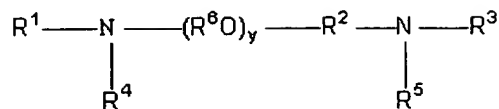


(23)

wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^8)_s(R^7O)_nR^6$ ;  $R^6$  is hydrogen or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^7$  in each of the  $n(R^7O)$  groups is independently  $C_2$ - $C_4$  alkylene;  $R^8$  is hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms,  $n$  is an average number from 1 to about 10,  $s$  is 0 or 1, and  $x$  and  $y$  are independently an integer from 1 to about 4;

110

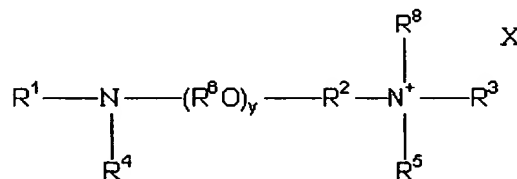
(j) diamines having the formula:



(24)

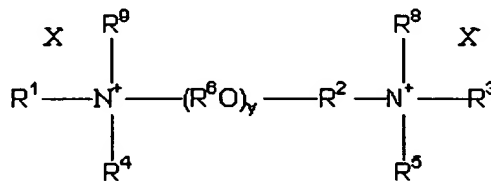
wherein  $\text{R}^1$ ,  $\text{R}^3$ ,  $\text{R}^4$  and  $\text{R}^5$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^6\text{O})_x\text{R}^7$ ,  $\text{R}^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $\text{C}(=\text{NR}^{11})\text{NR}^{12}\text{R}^{13}$ -,  $-\text{C}(=\text{O})\text{NR}^{12}\text{R}^{13}$ -,  $-\text{C}(=\text{S})\text{NR}^{12}\text{R}^{13}$ -,  $-\text{C}(=\text{NR}^{12})$ -,  $-\text{C}(\text{S})$ -, or  $-\text{C}(\text{O})$ -,  $\text{R}^6$  in each of the  $x$  ( $\text{R}^6\text{O}$ ) and  $y$  ( $\text{R}^6\text{O}$ ) groups is independently  $\text{C}_2$ - $\text{C}_4$  alkylene,  $\text{R}^7$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms,  $\text{R}^{11}$ ,  $\text{R}^{12}$  and  $\text{R}^{13}$  are hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $x$  is an average number from 1 to about 50, and  $y$  is an average number from 0 to about 60;

(k) mono- or di-quaternary ammonium salts having the formula:



(25)

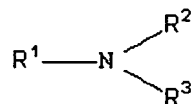
or



(26)

wherein  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^8$  and  $R^9$  are independently hydrogen, polyhydroxyalkyl, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or -  
 130  $(R^6O)_x R^7$ ,  $R^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $R^6$  in each of the  $x$   $(R^6O)$  and  $y$   $(R^6O)$  groups is independently  $C_2-C_4$  alkylene,  $R^7$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $x$  is an average number from 1 to about 30,  $y$  is an average number from about 3 to about 60, and  $X^-$  is an agriculturally acceptable anion;

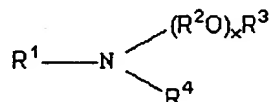
135 (l) a secondary or tertiary amine having the formula:



(27)

wherein  $R^1$  and  $R^2$  are hydrocarbyl having from 1 to about 30 carbon atoms, and  $R^3$   
 140 is hydrogen or hydrocarbyl having from 1 to about 30 carbon atoms;

(m) monoalkylated amines having the formula:

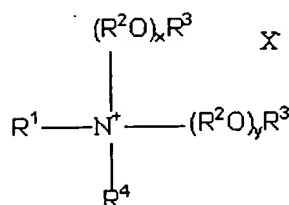


(28)

wherein  $R^1$  and  $R^4$  are independently hydrocarbyl or substituted hydrocarbyl groups having from 1 to about 30 carbon atoms or  $-R^5SR^6$ ,  $R^2$  in each of the  $x$   $(R^2O)$  groups  
 145 is independently  $C_2-C_4$  alkylene,  $R^3$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms,  $R^5$  is a linear or branched alkyl group having from about 6 to about 30 carbon atoms,  $R^6$  is a hydrocarbyl or substituted hydrocarbyl group having from 4 to about 15 carbon atoms and  $x$  is an average number from 1 to about 60;

150

(n) dialkoxylated quaternary ammonium salts having the formula:

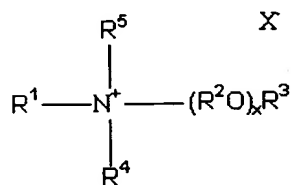


(29)

155

wherein R<sup>1</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, R<sup>4</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, x and y are independently an average number from 1 to about 40, and X<sup>-</sup> is an agriculturally acceptable anion, provided, however, that either R<sup>1</sup> or R<sup>4</sup> is other than alkyl;

(o) monoalkoxylated quaternary ammonium salts having the formula:



160

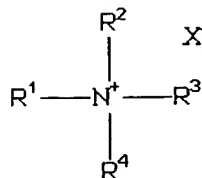
(30)

165

wherein R<sup>1</sup> and R<sup>5</sup> are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>4</sup> is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms, x is an average number from 1 to about 60, and X<sup>-</sup> is an agriculturally acceptable anion;

(p) quaternary ammonium salts having the formula:

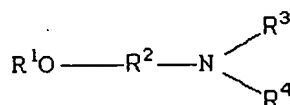




(31)

wherein  $\text{R}^1$ ,  $\text{R}^3$  and  $\text{R}^4$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $\text{R}^2$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, and  $\text{X}^-$  is an agriculturally acceptable anion, provided, however that  $\text{R}^1$  is not alkyl when  $\text{R}^2$ ,  $\text{R}^3$  and  $\text{R}^4$  are lower alkyl;

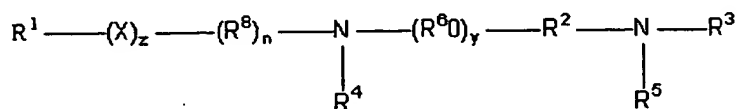
(q) etheramines having the formula:



(32)

wherein  $\text{R}^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $\text{R}^2$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms;  $\text{R}^3$  and  $\text{R}^4$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^5\text{O})_x\text{R}^6$ ,  $\text{R}^5$  in each of the  $x(\text{R}^5\text{-O})$  groups is independently  $\text{C}_2\text{-C}_4$  alkylene,  $\text{R}^6$  is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and  $x$  is an average number from 1 to about 50;

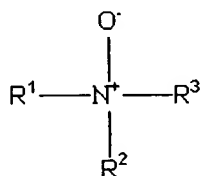
(r) diamines having the formula:



(33)

185 wherein  $R^1$ ,  $R^3$ ,  $R^4$  and  $R^5$  are independently hydrogen, hydrocarbyl or substituted  
hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^6O)_xR^7$ ;  $R^2$  and  $R^8$  are  
independently hydrocarbylene or substituted hydrocarbylene having from 2 to about  
30 carbon atoms,  $R^6$  in each of the  $x$  ( $R^6O$ ) and  $y$  ( $R^6O$ ) groups is independently  
190  $C_2$ - $C_4$  alkylene,  $R^7$  is hydrogen, or a linear or branched alkyl group having from 1 to  
about 30 carbon atoms,  $x$  is an average number from 1 to about 30,  $X$  is  $-O-$ ,  $-$   
 $N(R^6)-$ ,  $-C(O)-$ ,  $-C(O)O-$ ,  $-OC(O)-$ ,  $-N(R^9)C(O)-$ ,  $-C(O)N(R^9)-$ ,  $-S-$ ,  $-SO-$ , or  $-SO_2-$ ,  $y$  is  
0 or an average number from 1 to about 30,  $n$  and  $z$  are independently 0 or 1, and  
 $R^9$  is hydrogen or hydrocarbyl or substituted hydrocarbyl;

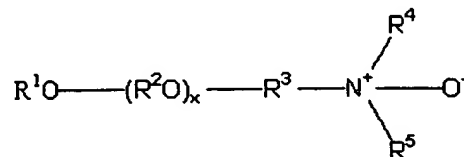
(s) amine oxides having the formula:



(34)

195 wherein  $R^1$ ,  $R^2$  and  $R^3$  are independently hydrogen, hydrocarbyl or substituted  
hydrocarbyl having from 1 to about 30 carbon atoms,  $-(R^4O)_xR^5$ , or  $-R^6(OR^4)_xOR^5$ ;  
 $R^4$  in each of the  $x$  ( $R^4O$ ) groups is independently  $C_2$ - $C_4$  alkylene,  $R^5$  is hydrogen, or  
a hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  
200  $R^6$  is a hydrocarbylene or substituted hydrocarbylene having from 1 to about 6  
carbon atoms,  $x$  is an average number from 1 to about 50, and the total number of  
carbon atoms in  $R^1$ ,  $R^2$  and  $R^3$  is at least 8;

(t) alkoxyated amine oxides having the formula:



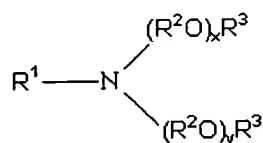
(35)

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205 wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to  
about 30 carbon atoms; R<sup>2</sup> in each of the x (R<sup>2</sup>O) and y (R<sup>2</sup>O) groups is  
independently C<sub>2</sub>-C<sub>4</sub> alkylene; R<sup>3</sup> is a hydrocarbylene or substituted hydrocarbylene  
having from 2 to about 6 carbon atoms; R<sup>4</sup> and R<sup>5</sup> are each independently  
hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon  
210 atoms, -(R<sup>6</sup>)<sub>n</sub>-(R<sup>2</sup>O)<sub>y</sub>R<sup>7</sup>; R<sup>6</sup> is hydrocarbylene or substituted hydrocarbylene  
containing from 1 to about 6 carbon atoms, R<sup>7</sup> is hydrogen or a linear or branched  
alkyl group having 1 to about 4 carbon atoms, n is 0 or 1, and x and y are  
independently an average number from 1 to about 60;

(u) dialkoxylated amines having the formula:

215

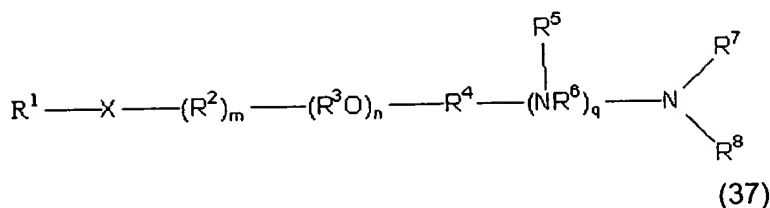


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220

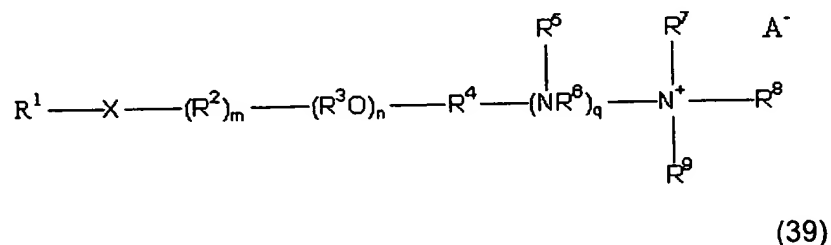
wherein R<sup>1</sup> is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to  
about 30 carbon atoms, -R<sup>4</sup>SR<sup>5</sup>, or -(R<sup>2</sup>O)<sub>z</sub>R<sup>3</sup>, R<sup>2</sup> in each of the x (R<sup>2</sup>O), y (R<sup>2</sup>O) and  
z (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or  
branched alkyl group having from 1 to about 22 carbon atoms, R<sup>4</sup> is a linear or  
branched alkyl group having from about 6 to about 30 carbon atoms, R<sup>5</sup> is a linear  
or branched alkyl group having from about 4 to about 15 carbon atoms, and x, y  
and z are independently an average number from 1 to about 40, provided, however,  
that when R<sup>1</sup> is alkyl, either the sum of x and y is greater than 20 or R<sup>3</sup> is other than  
225 hydrogen;

(v) aminated alkoxylated alcohols having the following chemical structure:

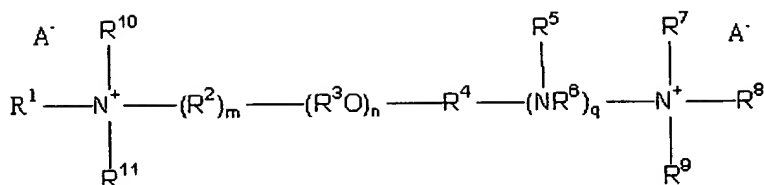


wherein  $R^1$ ,  $R^7$ ,  $R^8$ , and  $R^9$  are each independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(R^{11})_s(R^3O)_vR^{10}$ ;  $X$  is  $-O-$ ,  $-OC(O)-$ ,  $-C(O)O-$ ,  $-N(R^{12})C(O)-$ ,  $-C(O)N(R^{12})-$ ,  $-S-$ ,  $-SO-$ ,  $-SO_2-$  or  $-N(R^9)-$ ;  $R^3$  in each of the  $n$   $(R^3O)$  groups and the  $v$   $(R^3O)$  groups is independently  $C_2-C_4$  alkylene;  $R^{10}$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms;  $n$  is an average number from 1 to about 60;  $v$  is an average number from 1 to about 50;  $R^2$  and  $R^{11}$  are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms;  $R^4$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon atoms;  $R^{12}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $m$  and  $s$  are each independently 0 or 1;  $R^6$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $-C(=NR^{12})-$ ,  $-C(S)-$ , or  $-C(O)-$ ;  $q$  is an integer from 0 to 5; and  $R^5$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;

(w) a quaternary ammonium, sulfonium or sulfoxonium salt having the following chemical structure:

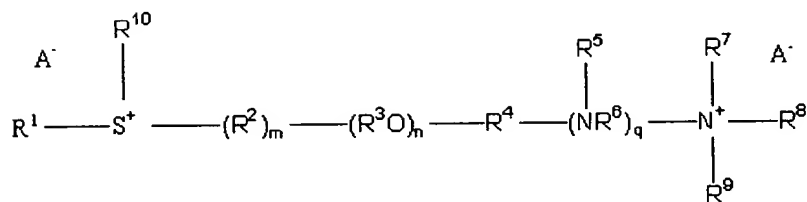


or



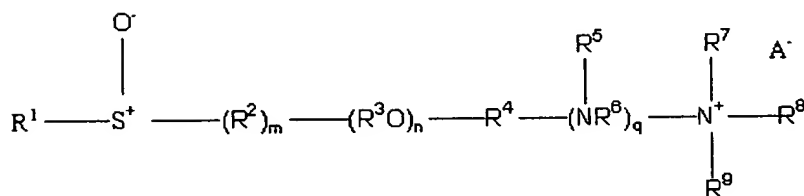
(40)

or



(41)

or

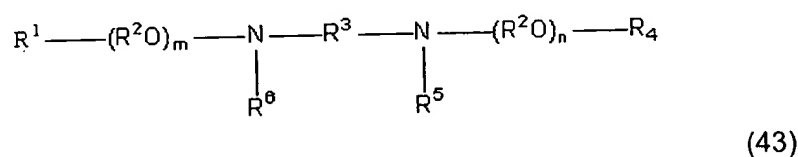


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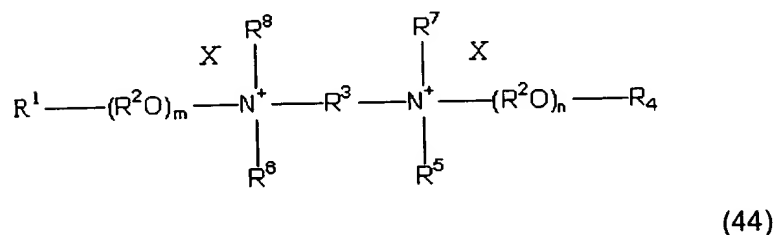
wherein  $\text{R}^1$ ,  $\text{R}^7$ ,  $\text{R}^8$ ,  $\text{R}^9$ ,  $\text{R}^{10}$  and  $\text{R}^{11}$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^{13})_s(\text{R}^3\text{O})_v\text{R}^{12}$ ;  $\text{X}$  is  $-\text{O}-$ ,  $-\text{OC}(\text{O})-$ ,  $-\text{N}(\text{R}^{14})\text{C}(\text{O})-$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{14})-$ ,  $-\text{C}(\text{O})\text{O}-$ , or  $-\text{S}-$ ;  $\text{R}^3$  in each of the  $n$  ( $\text{R}^3\text{O}$ ) groups and  $v$  ( $\text{R}^3\text{O}$ ) groups is independently  $\text{C}_2$ - $\text{C}_4$  alkylene;  $\text{R}^{12}$  is hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms;  $n$  is an average number from 1 to about 60;  $v$  is an average number from 1 to about 50;  $\text{R}^2$  and  $\text{R}^{13}$  are each independently hydrocarbylene or substituted hydrocarbylene having from 1 to about 6 carbon atoms;  $m$  and  $s$  are each independently 0 or 1;  $\text{R}^4$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 6 carbon

atoms;  $R^6$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms,  $-C(=NR^{12})-$ ,  $-C(S)-$ , or  $-C(O)-$ ;  $R^{14}$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $q$  is an integer from 0 to 5;  $R^5$  is hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms; and each  $A^-$  is an agriculturally acceptable anion;

(x) a diamine or diammonium salt having the formula:

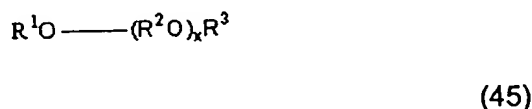


or



wherein  $R^1$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$  and  $R^8$  are independently hydrogen or hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $m$   $(R^2O)$  and  $n$   $(R^2O)$  groups and  $R^9$  are independently  $C_2-C_4$  alkylene,  $R^3$  is hydrocarbylene or substituted hydrocarbylene having from about 2 to about 6 carbon atoms or  $-(R^2O)_pR^9-$ ,  $m$  and  $n$  are individually an average number from 0 to about 50, and  $p$  is an average number from 0 to about 60;

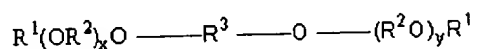
(y) an alkoxyated alcohol having the formula:



wherein  $R^1$  is hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms,  $R^2$  in each of the  $x$   $(R^2O)$  groups is independently  $C_2-C_4$  alkylene,  $R^3$

285 is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 60, provided, however, that when R<sup>1</sup> is alkyl, either R<sup>3</sup> is other than hydrogen or x is at least 10;

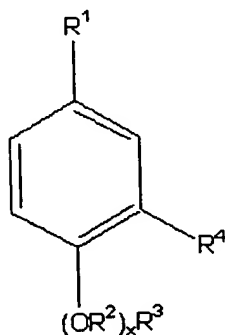
(z) dialkoxylated alcohols having the formula:



(46)

290 wherein R<sup>1</sup> is independently hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, R<sup>2</sup> in each of the x (R<sup>2</sup>O) and the y (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms, and x and y are independently an average number from 1 to about 60;

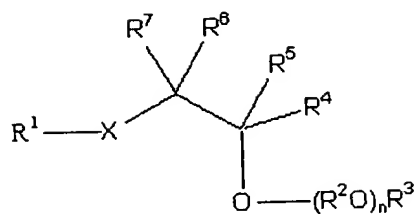
295 (aa) alkoxyated dialkylphenols having the formula:



(47)

300 wherein R<sup>1</sup> and R<sup>4</sup> are independently hydrogen, or a linear or branched alkyl group having from 1 to about 30 carbon atoms and at least one of R<sup>1</sup> and R<sup>4</sup> is an alkyl group, R<sup>2</sup> in each of the x (R<sup>2</sup>O) groups is independently C<sub>2</sub>-C<sub>4</sub> alkylene, R<sup>3</sup> is hydrogen, or a linear or branched alkyl group having from 1 to about 4 carbon atoms, and x is an average number from 1 to about 60;

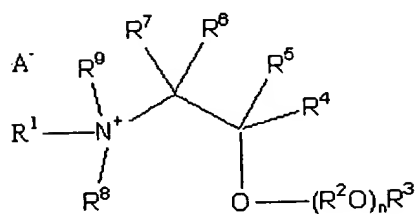
(bb) a compound of the formula:



(48)

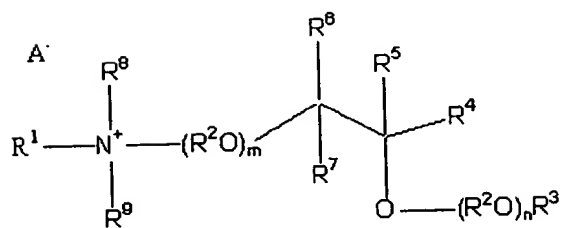
305

or



(49)

or



(50)

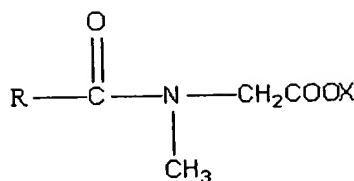
310

or

 099885-11904  
 T06T1-E5E88660

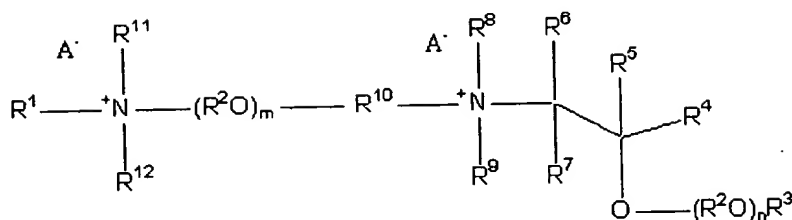






(54)

or

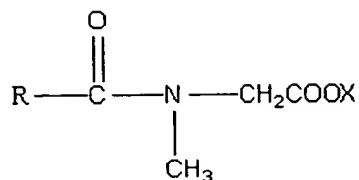


(55)

wherein  $\text{R}^1$ ,  $\text{R}^9$ , and  $\text{R}^{12}$  are independently hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{R}^2\text{O})_p\text{R}^{13}$ ;  $\text{R}^2$  in each of the  $m$   $(\text{R}^2\text{O})$ ,  $n$   $(\text{R}^2\text{O})$ ,  $p$   $(\text{R}^2\text{O})$  and  $q$   $(\text{R}^2\text{O})$  groups is independently  $\text{C}_2$ - $\text{C}_4$  alkylene;  $\text{R}^3$ ,  $\text{R}^8$ ,  $\text{R}^{11}$ ,  $\text{R}^{13}$  and  $\text{R}^{15}$  are independently hydrogen, or a hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms;  $\text{R}^4$  is  $-(\text{CH}_2)_y\text{OR}^{13}$  or  $-(\text{CH}_2)_y\text{O}(\text{R}^2\text{O})_q\text{R}^3$ ;  $\text{R}^5$ ,  $\text{R}^6$  and  $\text{R}^7$  are independently hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $\text{R}^4$ ;  $\text{R}^{10}$  is hydrocarbylene or substituted hydrocarbylene having from 2 to about 30 carbon atoms;  $\text{R}^{14}$  is hydrogen, hydrocarbyl or substituted hydrocarbyl having from 1 to about 30 carbon atoms, or  $-(\text{CH}_2)_z\text{O}(\text{R}^2\text{O})_p\text{R}^3$ ;  $m$ ,  $n$ ,  $p$  and  $q$  are independently an average number from 1 to about 50;  $\text{X}$  is independently  $-\text{O}-$ ,  $-\text{N}(\text{R}^{14})-$ ,  $-\text{C}(\text{O})-$ ,  $-\text{C}(\text{O})\text{O}-$ ,  $-\text{OC}(\text{O})-$ ,  $-\text{N}(\text{R}^{15})\text{C}(\text{O})-$ ,  $-\text{C}(\text{O})\text{N}(\text{R}^{15})-$ ,  $-\text{S}-$ ,  $-\text{SO}-$ , or  $-\text{SO}_2-$ ;  $t$  is 0 or 1;  $\text{A}^-$  is an agriculturally acceptable anion; and  $y$  and  $z$  are independently an integer from 0 to about 30;

(cc) an N-acyl sarcosinate having the formula:

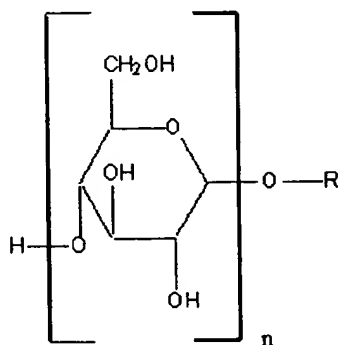
345



(61)

wherein R is C<sub>8</sub> to C<sub>22</sub> N-acyl, preferably a fatty acid of chain length C<sub>10</sub> to C<sub>18</sub>, and X is an agriculturally acceptable anion;

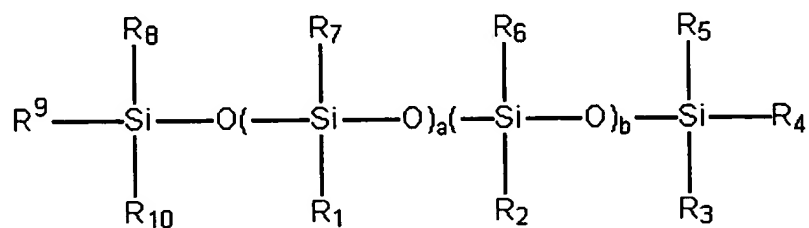
(dd) a glycoside having the formula:



(62)

wherein n is the degree of polymerization, or number of glucose groups, and R is a branched or straight chain alkyl group preferably having from 4 to 18 carbon atoms, or a mixture of alkyl groups having an average value within the given range; or

(ee) a polysiloxane having the formula:



(63)

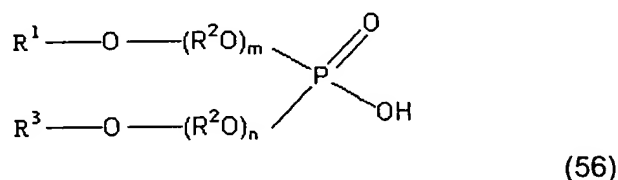
wherein  $R^1$  is  $-C_nH_{2n}O(CH_2CH_2O)_m(CH_2CH(CH_3)O)_qX$ ,  $n$  is 0 to 6,  $a$  is 0 to about 100,  $b$  is 0 to about 10,  $m$  is 0 to about 30,  $q$  is 0 to about 30,  $X$  is hydrogen or a  $C_{1-20}$  hydrocarbyl or  $C_{2-6}$  acyl group, and  $R_2, R_3, R_4, R_5, R_6, R_7, R_8, R_9, R_{10}$  groups are independently substituted or unsubstituted  $C_{1-20}$  hydrocarbyl or nitrogen containing groups;

(ff) a compound having the formula:



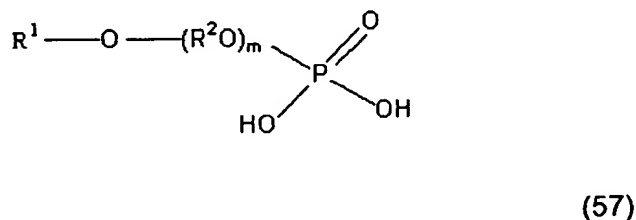
wherein  $R_1$  is a hydrocarbyl group having from about 8 to about 22 carbon atoms, each of the  $n$   $(R_2O)$  groups is independently  $C_2-C_4$  alkylene,  $n$  is a number from 0 to about 60, and  $X_1$  is a carboxylate, sulfate or phosphate;

(gg) a phosphate diester having the formula:



wherein  $R^1$  and  $R^3$  are independently a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $R^2$  in each of the  $m$   $(R^2O)$  and the  $n$   $(R^2O)$  groups is independently  $C_2-C_4$  alkylene; and  $m$  and  $n$  are independently from 1 to about 30; and

(hh) a phosphate ester having the formula:



wherein  $R^1$  is a linear or branched alkyl, linear or branched alkenyl, linear or branched alkynyl, aryl, or aralkyl group having from about 4 to about 30 carbon atoms;  $R^2$  in each of the  $m$  ( $R^2O$ ) groups is independently  $C_2$ - $C_4$  alkylene; and  $m$  is from 1 to about 30; and

(ii) an anionic surfactant selected from the group consisting of fatty soaps, alkyl sulfates, sulfated oils, ether sulfates, sulfonates, sulfosuccinates, sulfonated amides and isethionates.

124. A composition of claim 123 wherein said oxalic acid comprises an alkali metal salt, alkanolamine salt, alkylamine salt, tetraalkylammonium salt, or aryltrialkylammonium salt of oxalic acid.

125. A solid pesticidal concentrate composition comprising:

a water-soluble pesticide present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which increases cell membrane permeability within the plant to increase cellular uptake of the pesticide in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture,

wherein the weight ratio of said pesticide to said compound is at least 2.5:1.

126. A composition of claim 125 further including a surfactant component comprising one or more surfactants.

127. A composition of claim 125 wherein said compound comprises oxalic acid or a salt thereof.

a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and a compound which increases cell membrane permeability within the plant to increase cellular uptake of the pesticide in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

129. A composition of claim 128 further including a surfactant component comprising one or more surfactants.

130. A composition of claim 128 wherein said compound comprises oxalic acid or a salt thereof.

a water-soluble pesticide present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and  
a compound which suppresses oxidative burst in cells of the plant to interfere with plant defense response in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

10 wherein the weight ratio of said pesticide to said compound is at least 2.5:1.

132. A composition of claim 131 further including a surfactant component comprising one or more surfactants.

133. A composition of claim 131 wherein said compound comprises oxalic acid or a salt thereof.

1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795

a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which suppresses oxidative burst in cells of the plant to interfere with plant defense response in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

136. A composition of claim 134 wherein said compound comprises oxalic acid or a salt thereof.

a water-soluble pesticide present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and  
a compound which increases expression of hydroxyproline-rich glycoproteins which increases movement of said pesticide to the phloem in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

138. A composition of claim 137 further including a surfactant component comprising one or more surfactants.

139. A composition of claim 137 wherein said compound comprises oxalic acid or a salt thereof.

[illegible]

140. A solid herbicidal concentrate composition comprising:

a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water to form an enhanced application mixture and applied to the foliage of a susceptible plant; and

a compound which increases expression of hydroxyproline-rich glycoproteins which increases movement of said pesticide to the phloem in the plant treated with said enhanced application mixture as compared to a plant treated with a reference application mixture devoid of said compound but otherwise having the same composition as said enhanced application mixture.

141. A composition of claim 140 further including a surfactant component comprising one or more surfactants.

142. A composition of claim 140 wherein said compound comprises oxalic acid or a salt thereof.

143. A solid pesticidal concentrate composition comprising:

a water-soluble pesticide present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant; and

oxalic acid or a salt thereof;

wherein said glyphosate and said oxalic acid are present in a weight ratio of at least 2.5:1.

144. A composition of claim 143 further including a surfactant component comprising one or more surfactants.

145. A composition of claim 144 wherein said pesticide and said surfactant are present in a weight ratio of between about 2:1 and 30:1.

[illegible]



a glyphosate salt or ester present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant; and

147. A composition of claim 146 further including a surfactant component comprising one or more surfactants.

a water-soluble pesticide present in a concentration that is biologically effective when the composition is diluted in a suitable volume of water and applied to the foliage of a susceptible plant;

a surfactant component comprising one or more cationic or nonionic surfactants.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99